

T
171
C2845

MAY 15 1948

CARNEGIE

MAGAZINE

CARNEGIE
INSTITUTE

CARNEGIE
INSTITUTE OF TECHNOLOGY

CARNEGIE
LIBRARY

VOLUME XXI PITTSBURGH, PA., MAY 1948 NUMBER 10



IN DUTCH MANNER BY ANDREY AVINOFF

Water Color lent by Mrs. Alan M. Scaife

(See Page 291)

CARNEGIE MAGAZINE

PUBLISHED MONTHLY EXCEPT AUGUST AND SEPTEMBER
IN THE INTEREST OF CARNEGIE INSTITUTE, CARNEGIE
INSTITUTE OF TECHNOLOGY, AND CARNEGIE LIBRARY,
PITTSBURGH, PA. SUBSCRIPTION PRICE, TWO DOLLARS A
YEAR; SINGLE COPY, TWENTY-FIVE CENTS.

OFFICE OF THE PRESIDENT

CARNEGIE INSTITUTE

JAMES M. BOVARD, Editor

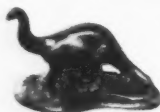
JEANNETTE F. SENEFF, Editorial Assistant

VOLUME XXI

NUMBER 10

MAY 1948

ART AND NATURE SHOP



Fish-scale jewelry

A flexible necklace, bracelet, pin, pair of earrings fashioned from opalescent fish scales. \$1.00 to \$2.50.

Snakeskin

Cured strips, two-by-four inches. 15c.

Art reproductions

Sheet of two-inch colored stamps showing 24 great paintings owned in this country, with explanatory folder. \$1.00.

Arrowheads

Authentic, varied in type. 5c to 25c.

Metal animals

An astounding variety of bronze replicas of wild and domestic animals, less than three inches in height. 50c to \$1.75.

Wild Flower Guide

An attractive 202-page book identifying wild flowers of this section, by Dr. Edgar T. Wherry. Four hundred plates by Tabea Hofmann. Doubleday and Company. \$3.00.

OPEN MEETINGS

Numismatic Society of Western Pennsylvania
May 4, 8:00 P.M., Herpetology Laboratory

Botanical Society of Western Pennsylvania
May 12, 8:15 P.M., Children's Museum

Audubon Society of Western Pennsylvania
May 26, 8:15 P.M., Children's Museum

CARNEGIE INSTITUTE

4400 FORBES STREET

HOURS: 10:00 A.M. to 6:00 P.M., weekdays
2:00 to 6:00 P.M., Sundays

•••

Carnegie Institute broadcasts
Each Tuesday, 6:45 P.M., from WCAE

FINE ARTS

National High School Art Exhibition
presented by Scholastic Magazines
May 9 through May 30

•••

Flower Paintings by Andrey Avinoff
through May 23

•••

Drawings by Childe Hassam
from the Carnegie Institute Collection
through May 30

•••

Stained Glass Windows of the Middle Ages
in England and France
in drawings by Lawrence B. Saint
from the Carnegie Institute Collection
through July 18

MUSEUM

Nature Contest

May 8, Children's Museum

Grades 5-8, 10:00 A.M.

Grades 9-12, 1:30 P.M.

MUSIC HALL

Organ recitals by Marshall Bidwell

Saturdays at 8:15 P.M.

Sundays at 4:00 P.M.

Sunday recitals broadcast from WPGH

•••

Charles E. Vogan, University of Michigan
presented by American Guild of Organists
Saturday, May 8, 8:15 P.M.

•••

Chapel Choir of Shaler High School

G. Raymond Bell, conductor

Saturday, May 15, at 8:15 P.M.

CARNEGIE LIBRARY

HOURS: 9:00 A.M. to 10:00 P.M., weekdays

Reference, Periodical, and Technology

Rooms open 2:00 to 6:00 P.M., Sundays

•••

Storytelling

Central Boys and Girls Room

For children six to twelve years old,
told by a Library School student
every Saturday morning, 10:30 A.M.

For children three to five years old

Wednesday, May 12, 10:30 A.M.

with stories told by Laura E. Cathon,

Janet Acheson speaking to the mothers on

"Teen-age Tastes in Reading"

Wednesday, May 26, 10:30 A.M.

with stories told by Miss Cathon,

Eugenia Brunot speaking to the mothers on

"The Experimental Library: Homewood Branch"

FLOWER PAINTINGS BY ANDREY AVINOFF

By WALTER R. HOVEY

Head, Department of Fine Arts, University of Pittsburgh

SPRING, the season of the first flowers, is welcomed at the Institute by a brilliant display of paintings: forsythia, daffodils, and tulips. There are other flowers too: roses especially, coxcomb—red as the deepest ruby—and blooms from the tropics, fields, or greenhouse. But rarest of all are the blossoms that spring full-grown, as it were, not from the soil, but from the mind of the artist, Andrey Avinoff.

When Dr. Avinoff, now living in New York, was the well-known and beloved director of the Carnegie Museum, he amazed everyone here not only by the breadth of his interests but by the thoroughness and skill with which he pursued any subject. His chief delight was entomology and the world of flower-forms which it implied. The Flower Paintings, seventy-one of them on view from April 15 to May 23, are a remarkable manifestation of his genius. They were all done since his retirement from the directorship in the spring of 1945.

The paintings embrace many media: water color, gouache, tempera, India ink, pastel, and one oil. If the water colors predominate, it is hard to say whether it is because he feels more at ease with this than with other media or

because the ideas of this particular series find a richer embodiment in this technically baffling yet simple device. Anyhow the handling of the water color is superb. He explores all its possibilities and does indeed rival nature

in the depth and clarity of his tones. Yet, when he wishes to portray the sentimental charm of roses rather than the brilliance of their physical beauty, he uses pastel with equal dexterity. Or again, with consummate skill, if the subject suggests an opaque, velvety texture, he can acquire that feeling, too, through the use of tempera. Cineraria, begonia, camelia, or orchid—each presents a special problem which has been mastered by the mind as well as by the hand of the

artist. Perhaps in the oil alone, one questions whether the handling has pushed the medium to its furthest limitations.

Scientific, sensuous, and mystical feelings all seem to struggle for emphasis, not only within each individual work, but in the mind of the spectator as he tries to select his favorite painting. Unquestionably surrealism is a manifestation of the interest of a scientific age in emotional realities. Dr.



DREAM BOUQUET

Tempera

Lent by Mrs. Halsted B. Vander Poel

Avinoff as a scientist often wanders into the vagaries of strange fancies. As an artist he delights in the sensuous appeal of a botanical study. Inconsistent relationships become consistent as one is able to explore the channels of memory and experience. Sometimes a clue is given, as in the title, *My Old Country Home*. This building, and possibly the Carnegie Institute, appear in the background of *Daffodils*. One wishes for enlightenment in many cases since there is such a wealth of subject matter—hands, faces, animals, and sea forms. Is the domed building in *Fantasy* a part of the Capitol in Washington or another glimpse into Russia? Certainly the gates suggest a definite recollection, and perchance there is a hint here, as in other works, of memories from two continents. At any rate the world of reality seems constantly to be striving with the world of the mind in these paintings.

Travels to a Tibetan monastery form the background to *Blue Poppy*. Obviously this is an excursion into Oriental thought, but done analytically and in contrast to a western point of view, as is indicated by the black European lace that hangs as a curtain across one corner of the picture. The Orient is frequently apparent, not as seen through western eyes, nor as a convert to their esoteric philosophy, but as a distillation of one phase of human concentration.

Nature as a symbol of the Divine essence is marvelously caught in *The Spirit of the Bluebells*. The flowers are

stylized into the intensity of a white flame, or around them glows a halo revealing the range of the spectrum. The beautiful blue, like the robe of the Virgin in paintings by Fra Angelico, can suggest only infinite grace.

What is this creative force in Nature? The seventeenth-century painters tried to express it in subjects of the Immaculate Conception. Then it became customary to use as attributes the moon, a building, a tree and fountain, the sea and flowers. Sometimes these were drawn as though seen within a crystal. Dr. Avinoff understands the meaning of this symbolic language. He somehow thinks pictorially and uses bubbles and lighted candles perhaps to convey continuity and transience. In *Pearls and Flowers*, the Albert Memorial, lit by the crescent moon, frames a tired "discus thrower." The laws of selection and survival which he knows so well

operate in devious circuits.

Occasionally one thinks of the *Flowers of Evil*, though there is nothing of the macabre and sinister of Baudelaire. It is rather in the pride of the mind dominant over nature. *The Tulips Are Gone* is the title of one of the paintings, and indeed they are so represented. Yet what appears to be the Cathedral of Learning floats in the clouds above. Often a nacreous beauty breeds strange imaginings. *Opal-*

essence and *Iridescence* are paintings that suggest not only the spell of the exotic but an awareness of the strange attraction of a Faustian world. Like Baudel-



CINERARIA
Tempera



OUT OF REACH
Water Color

aire, Andrey Avinoff is a sound critic. He knows the beauty of those masters of floral painting in seventeenth-century Holland who found a drop of dew or tiny insect a necessary attribute in their formal arrangements. And he knows the charm of Matisse who catches the fleeting vision with patterns of calculated color harmonies. He speaks of the "mysticism" of Redon, and the "laconic candor" of Van Gogh. Redouté, that botanist painter who glorified the rose, is his patron saint.

It is this precise and documentative handling which he so admires and which makes his series of three hundred paintings of Flowers of Western Pennsylvania a contribution of the first importance in the history of the presentation of knowledge. A selection of these was first shown in the gallery of the Department of Fine Arts at the University of Pittsburgh in 1941. It was hoped they would at once be reproduced for publication, but funds have not as yet been made available. He is now working on an issue of one hundred

BOOK BROADCASTS

CURRENT books form the basis for discussion of current problems in the fifteen-minute broadcasts each Sunday at 12:45 P.M., from WPGH, presented by the Library of Carnegie Tech with Librarian Melvin J. Voigt as moderator.

J. P. Fugassi, associate professor of chemistry, will review *Physical Science and Human Values* by E. P. Wegner on May 9, giving the scientist's views on subsidized research.

The following Sunday *Our Children Are Cheated* by Benjamin Fine will be reviewed by B. von Haller Gilmer, head of psychology and education at Carnegie Tech, when the discussion will turn to responsibility for public education.

Food and life will be the theme for May 23, with Melva B. Bakkie, associate professor of home economics basing her remarks on *Hidden Hunger* by I. G. Macy and H. H. Williams.

Austin Wright, head of the English department, talked on Julius Caesar in discussing Thornton Wilder's *The Ides of March* on May 2.

ENCOURAGING

A bit of ancient dinosaur bone from the Art and Nature Shop, received by a local minister, moved him to write M. Graham Netting as follows:

"Thanks for the souvenir received this morning. I was beginning to feel old until I looked at it. Didn't think anything 150 million years old could stick together. It will indeed be treasured on my mantle so that any day I feel too ancient I can just take a peek at it."

orchid plates which are being reproduced in Italy. What rare folios these are destined to become in future years, and what a rare privilege for us to have these paintings shown in Pittsburgh!

SCHOLASTIC AWARDS COME OF AGE

By JENNIE COPELAND

National Secretary, Scholastic Awards

THE eyes of thousands of high-school art students throughout the country are focused on Carnegie Institute this month. To these students the words "Carnegie Institute" symbolize the national honor for which they have worked and created. They have been waiting in the classrooms of two thousand schools in small mountain hamlets and in great industrial cities. These boys and girls know that their art work has survived the preliminary regional judging and has gone on to Pittsburgh. The verdict of the national juries, which they await, is now seen in the Fine Arts Galleries at Carnegie Institute, beginning May 9, when the

twenty-first National High-School Art Exhibition sponsored by Scholastic Magazines opens to the public.

"It has been a killing but a thrilling job," concluded Zoltan Sepeshy, first-prize-winner in "Painting in the United States, 1947," of his work on the pictorial art jury. He spoke, too, for his fellow jurymen, who shared the tremendous task of narrowing down an amazing array of some 25,000 art pieces to a show of the 1,400 best.

To judge the work which has come from all the forty-eight states and Hawaii, Scholastic Magazines assembled jurors from as far west as California and Oregon through to Connecticut and

Massachusetts. Ranging from oils and water colors, through black and colored inks, pastels, pencil, prints, design, posters, and three-dimensional work, the pieces went up on gallery walls and counters for consideration by some of the country's most distinguished artists and art educators.

Among these were Max Weber, internationally known painter, who shared Mr. Sepeshy's delight over the student-created work; illustrator William A. Smith, former Scholastic-Art-Awards-winner himself, who challenged the others with "Could you have done this when you were sixteen?" And Siegfried Weng, of Dayton Art Institute, who voiced a similar sentiment: "This is certainly away ahead of the quality of art work done when we went to art school."



OIL, BY ELLICOTT HEWES
Masters School, Dobbs Ferry

Then, too, there was painter Millard Sheets, who flew in from California on a "local" plane that made sixteen stops en route to Pittsburgh. Forgotten, however, were the rigors of his trip in his great enthusiasm over the work of the young artists.

Wide national representation was also seen in the preliminary jury, who had the arduous task of sifting out for the final juries the best work from areas that had no regional exhibitions this year. In that group were Art Education Directors Helen J. Copley, of Detroit; Ruth E. Halvorsen, of Portland, Oregon; and Casimir Shea, of Boston. Said Mr. Shea: "It is significant that, although we came from three such different parts of the country, we worked as one person; we thought alike and reacted the same way in looking for the best in high-school art."

There was even the suggestion of an international note in the sculpture jury: Helena Zelezna, Czechoslovakian scul-



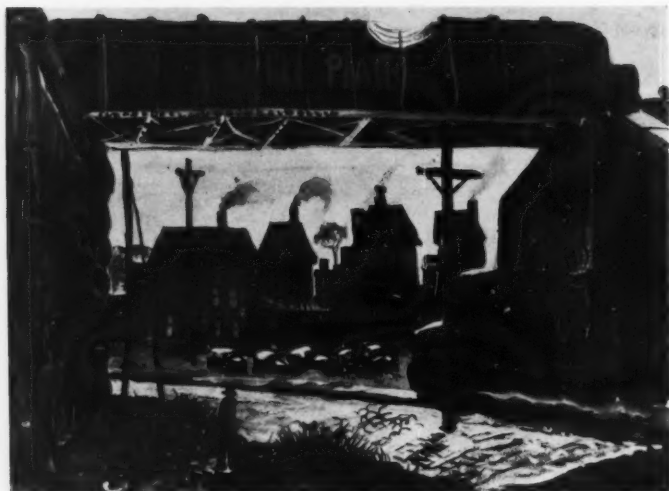
SCULPTURE BY RICHARD C. LAFEAN
Schenley High School, Pittsburgh

ress in this country but fifteen months, found herself on the same jury with Grand-Prix-de-Rome-winner George M. Koren, of Pittsburgh, who had studied with her in Italy. Others who judged sculpture, ceramics, and crafts were Viktor Schreckengost, of Cleveland, and Frederic Clayter, of Pittsburgh.

Perhaps the most challenging task faced the scholarship jury, who had to choose from the six hundred submitted portfolios the winners of the seventy-five scholarships offered by the nation's leading art schools. They worked steadily for three days to select the winners of these most coveted awards, carefully matching the quality and nature of the student's work with the qualifications demanded by the various art schools. Serving on this jury were Dr. Royal Bailey Farnum, formerly of the Rhode Island School of Design, who has worked faithfully on this jury for several years; Frank H. Young, of American Academy of Art in Chicago; and Edward Warwick, of the Philadelphia Museum School of Industrial Art. In discussing the work in the portfolios, Mr. Warwick commented particularly on the "fluent color, dynamic design, fine drawing, and sense of maturity."



BLACK INK BY GLORIA DASO
James Ford Rhodes High School, Cleveland



WATER COLOR BY CASIMIR MACULEWICZ
Technical High School, Erie

The design jury included George T. Miller, chief of art education for Pennsylvania; Josephine Ellis, of Fashion Institute of Technology and Design in

New York; Helen Topp, of Margaret Morrison Carnegie College; and Gail Berk, of New York, teen-age clothes designer. The judges of advertising art were Albert T. Sneden, of Batten, Barton, Durstine & Osborn; J. T. Ross, of Ketchum, MacLeod & Grove; and Homer Sterling, of Carnegie Institute of Technology. In cartooning, the judges were Cy Hungerford, of the *Pittsburgh Post-Gazette*, and Mario R. Cooper, of New York. Mr. Cooper also assisted on the special Ingersoll Awards jury.

The story behind the judging and the National High-School Art Exhibition has been told in this magazine before. But its readers may not have realized that this year the Scholastic Art Awards program has come of age! Now for the twenty-first year it has encouraged high-school students to express the best in them, and has helped to give art education the recognition it deserves within the community. Speaking at the dinner given at Hotel Schenley by M. R. Robinson, of Scholastic Magazines, Homer Saint-Gaudens said, "The Scholastic Art Awards have done more to spread art appreciation in this coun-



PASTEL BY EDNA ZAENGLEIN
Arsenal Technical High School, Indianapolis

CARNEGIE MAGAZINE

try than any other one agency."

We of Scholastic know that the Awards program has come of age only because it has been such a great co-operative movement. First on the list are the art teachers and art supervisors of America, for their enthusiastic support has been most vital to the success of the program. Working with them this year have been thirty-six civic-minded department stores, who have sponsored and housed the regional exhibitions throughout the country. By helping to furnish the thousands of dollars for cash prizes, the commercial sponsors also have an important part in the success of the program. The art schools offering tuition scholarships, the artists and art educators who give of their valuable time in judging and thus help set standards for art education, the board and staff of Carnegie Institute which give generously and graciously of its facilities for the receiving of entries and the hanging of the show—these are all very important contributors to the national co-operative program.

Ten years ago *CARNEGIE MAGAZINE* ran an article on the Awards, written by Gladys Schmitt of Pittsburgh. The now-famous novelist—a Scholastic-Writing-Awards winner when in high school—referred to the "pathetic shreds of effort from outpost schools that have no art instruction" and quoted a member of the preliminary jury thus: "These drawings would never have been done if their creators had not had a real urge toward creating art. In every one of these cast-off sketches is a desire and a spark. If only we had art instruction for everyone, if only every one of these students who desire to express themselves with pencils and brushes had de-

cent instruction toward such self-expression. . ."

That was ten years ago—when seven hundred schools entered the competition for Awards. This year over two thousand schools were represented in the pieces that came to Carnegie Institute, and regional sponsors had sent on to Carnegie this year only one-tenth of the entries they received.

That was only ten years ago, when Karl S. Bolander, then a member of the jury, was quoted as saying: "Every year the student work gets better, more skilled, more professional. But it never loses the freshness and youngness it had in the beginning." In 1948 Mr. Bolander, now director of the Scholastic Art Awards, may be quoted as saying: "This year's national winners show more progress than I have seen in any one of the nineteen competitions with

(Continued on page 305)



OIL BY CHARLES GEHM
Alliance High School, Alliance, Ohio

JEAN SIBELIUS

A MUSICAL VOICE FROM THE NORTH

BY MARSHALL BIDWELL

Organist and Director of Music, Carnegie Music Hall

EVEN after you have heard a great many symphonies, I wonder if you have had the experience of listening to one and of feeling rather confused. I guess most of us have had that happen. We felt that something important was being said but that the manner of expressing it was strange. Somehow we just couldn't quite grasp it.

Here was the music of the greatest living composer, yet this symphony didn't seem to be constructed along the same lines as other symphonies. Little snatches of a theme were heard, then suddenly the music would jump to something else. Finally we came to the conclusion that this composer had the peculiar mannerism of treating little bits of a theme—hinting, suggesting, and even hiding it from full view until later on in the symphony, when we finally heard it in its completeness.

Thus it is with the music of the great Finnish composer Jean Sibelius. It is fitting that we should study the life and works of this great man. So much has happened to bring him to our attention. Back in 1940, when the world celebrated his seventy-fifth birthday, some of us may recall how, during

that brief but awful conflict, when his beloved Finland went down before the overwhelming power of the Soviet Union, people everywhere were worried

and wondering about Sibelius. Was he safe? I remember, back in 1941, news came out that during the war between Finland and the Soviet Union, when Soviet planes were flying above his home, Sibelius rushed out and took pot shot at them with an antiquated rifle.

Somehow he lived through those days as he had lived through former struggles and adversities, and for all we know he is still working quietly in his study in the picturesque

village called Järvenpää, some thirty miles north of Helsinki, surrounded by the bleak austerity of Scandinavian forests. His home is a glorified log cabin, the Villa Ainola, named for his wife Aina.

We know very little about his personal life. The son of a medical officer in the Finnish army, as a boy he played the violin and made some amateurish attempts at composition, but, like Wagner, showed no signs of any unusual talent. Left an orphan at an early age, he was educated by his grandparents with the idea that he take up the



Musical America

JEAN JULIUS CHRISTIAN SIBELIUS

study of law. Fortunately he studied music at the same time, and when he was twenty-four years old he went to Berlin and Vienna to study composition.

He was back in his native country in 1891, at the very moment when Finland was undergoing a fever of patriotism inspired by the Russian oppression. This intense national feeling vitally influenced his creative work. His first important work after his return home was a symphonic poem in five movements called *Kullervo*, a work glowing with revolutionary ardor and nationalistic spirit. This was followed by another tone poem, *En Saga*, and then came that famous cycle of musical legends describing the exploits of the hero Lemminkäinen.

The tremendous success of this work, composed in 1892, swept like wildfire over Finland, and it was then that the citizens of that great little republic decided that this man of genius should be subsidized by the state, so that he could live and write and not have to teach for a living. This annual government allowance has had the highly beneficial result that he has been freed from all financial care and has been able to devote himself to composition without interruption. After all, no composer makes money writing symphonies. Any American composer can tell you that. His stipend was not large, at first hardly sufficient for his living expenses.

With the exception of occasional appearances as conductor of his own works, Sibelius' life has been uneventful. He came to America in 1914 to conduct his compositions at a festival held at Norfolk, Connecticut. Yale University conferred the degree of Doctor of Music upon him at that time, and three of his compositions were played at the commencement ceremonies.

He is an exceedingly reticent person. Although Sibelius is formidable looking and of powerful frame, everyone who has come in contact with him testifies to the great humanity of the man. According to one biographer he dresses fastidiously, smokes the best

and largest Havana cigars, relates anecdotes, and is a perfect host to any gathering.

Yet there is something puzzling in his make-up. He is difficult to understand and seems to live in a different world. As soon as the guests leave, he is absorbed in his work, and the silent hours of the night are never wasted. "The silent loneliness is to him an opportunity to hear the glorious music of the spheres," a biographer has said.

One of Sibelius' strongest traits of character is his love of nature. He has said: "It pleases me to be called an artist of nature, for nature has been truly the book of books for me. The voices of nature are the voices of God, and if an artist can give mere echo of them in his works, he is fully rewarded for all his efforts."

Some critics have classed Sibelius as one of the group of great nationalist composers, such as the Russian Borodin, the Scandinavian Grieg, the Bohemian Smetana and Dvorak, but he is of far greater stature than the nineteenth-century nationalists. To really understand Sibelius one must know something of the fundamental characteristics of the Finns themselves.

There is a mystical touch in everything Finnish, and with it there is a great trend toward mythology, which accounts for Sibelius' noble tone poems on the legends of Finland. It is a great mistake, however, to assume that his music is based on folk songs. That isn't true. Sibelius denies that there is a single Finnish folk song in any work of his, and he states that it was not till rather late in his career that he knew anything about the Finnish folk songs.

Yet even his very earliest works give a true expression of Finnish scenery and the soil of the Finnish people. It was the great national epic, the *Kalevala*, that absorbed his interest continually, as he tells us, and its tales of heroism, its wild, colorful idylls and scenes of fantastic tragedy inspired him to write some of his greatest music, including the tone poems *En Saga* and *Kullervo*, the



Suomen Kuvalehti—Musical Quarterly

THE COMPOSER AT HOME WITH MADAME SIBELIUS AND A FRIEND

Lemminkäinen legends, and *The Swan of Tuonela*.

Finlandia is one of the great expressions of patriotism in music. It was written back in 1899, at a time when Finland was still a part of the old Czarist empire. A series of repressive measures directed against Finnish and Swedish newspapers was answered by a freedom-of-the-press campaign that was financed by a number of patriotic theatre benefits. For one of these benefit performances Sibelius was asked to do a musical score to accompany a series of tableaux depicting Finland's glorious past.

Although this composition has been called by various names in various countries, the essential patriotism of the music was never in doubt. Thus in Germany it was called *Der Vaterland* and in France *La Patrie*. Needless to say, the work could be performed only with difficulty in the old Czarist empire. Sibelius relates how, in order to escape the ban, in Riga he had to perform the work under the title of *Impromptu*.

Finlandia has become the Finnish national anthem. Although it is intensely national in character, its message is universal in scope. It was first introduced in the United States in 1905 and since that time has been a continual favorite with American audiences.

The Second Symphony of Sibelius seems to be the favorite of most people, perhaps because it is also in a romantic vein and has beautiful melodies. This symphony strikes out on a new path altogether, as I mentioned at the beginning of this article. In its first movement the composer inverts the accepted principle of symphonic form, first introducing little fragments of themes, building them into an organic whole in the development section, then, in the last section, dissolving and dispersing the material back into fragments. The peculiar attraction of this method is in the fact that it is the method of nature and of life itself; Sibelius' most characteristic movements are born, develop, and die, like all living things.

There is nothing more remarkable in the entire range of symphonic literature than the way this composer first presents a handful of seemingly disjointed and unconnected and meaningless scraps of melody and then proceeds to breathe life into them and bring them into relation with each other.

This is the real Sibelius. If you have a good imagination you can read all sorts of things into it. There is an atmosphere of severity rather than of gloom, of a harsh, relentless vitality asserting itself. There is no bombastic proclaiming, such as you too often hear in Tchaikovsky. Furthermore, Sibelius never puts in any padding to round out the framework of the form. There are never any purely decorative passages—that's why he sounds so abrupt. The main criticism of Tchaikovsky is lack of reserve. Sibelius never speaks the superfluous word.

I suppose the one thing that has placed Sibelius head and shoulders above his contemporaries is the fact that he has not found it necessary to resort to a lot of superficial, modernistic tricks—atonality, polytonality, the twelve-note scale, and all the rest—to attract through their novelty and cover up an essential paucity of thought. He writes in an idiom as if Stravinsky, Schönberg, or Ravel had never lived. I know that I am entering the dangerous field of controversy when I say that I can't see how atonality can ever become an instinctive and natural idiom. It is significant that Sibelius will have none of it. He has shown conclusively that it is still possible to say something new, vital, and original, without having to invent a new vocabulary, a new language, to say it. Sibelius never tries to see how many discordant effects he can put in a short space, or how he can twist musical forms into distorted shapes and sizes.

You have probably observed that there is nothing astonishing about Sibelius' orchestration. There are no extravagant tone colors such as you will find in a Tchaikovsky or a Wagner

or Rimsky-Korsakoff. Sibelius was simply not interested in that sort of thing. But his orchestra, while lacking in sensuous appeal, is at all times colorful, although the color of any given passage is an integral part of the music itself and not just added to make the music sound pretty. His orchestration is almost identical with that of Beethoven. He has remained immune to Wagnerian influence. Every melody heard in a Sibelius symphony seems to belong.

A discussion of Sibelius would not be complete without mentioning the *Valse triste*. This waltz is full of poetry and melody and a shadowy, macabre sort of beauty. The only objection to it is that it has taken an awfully long time for his symphonies to become known and appreciated, and we need to cultivate a taste for the larger and more important works that are essentially Sibelius.

Well, Sibelius is the great enigma of the present day. Now eighty-three years old, he is a mystery in more ways than one. It seems hardly credible that this great composer has written nothing since 1929. One wonders what he has been doing these last two decades. From boyhood he composed unceasingly and profusely. Could this have come to an abrupt end? Have reasons of health or of increasing self-criticism had something to do with his long silence? Or is there an Eighth Symphony long completed, waiting to be performed after his death? The world will await with interest and anxiety the unveiling of this mystery. For it centers around the greatest living symphonic composer—perhaps the most natural composer of modern times—who somehow seems to have escaped the restlessness, the disillusionment, the excessive sophistication of his contemporaries.

ANNALS OF CARNEGIE MUSEUM VOLUME XXX

ART. 16—Avinoff, A., and Shoumatoff, N. An annotated list of the butterflies of Jamaica, p. 263-295. 30c.

ART. 17—Todd, W. E. C. Critical notes on the woodpeckers, p. 297-317. 25c.

GAILY THE DINOSAUR!

DANCING dinosaurs are the motif for May in Pittsburgh. From the gay poster by Cy Hungerford announcing the coming of the Dinosaur Ball—which will be held at the Hotel Schenley on May 21—to the Saturday morning painting classes in the Fine Arts department of Carnegie Institute, the heretofore gigantic bony skeleton has emerged with curves and winsome personality—a definitely “new look” dinosaur.

If the group of young Pittsburghers who are sponsoring the ball—the Dinosaur Ball Committee—have their way, the affair will be the gayest spring event we have seen in many years. Incidentally, the ball will also supply some of the additional revenue that Carnegie Institute needs if its facilities are not to be further curtailed.

Maybe because of their very youth, rather than despite it, the members of the Dinosaur Ball Committee appreciate how much Carnegie Institute means to Pittsburgh. Just a few years ago many of them were studying in the Museum and the Fine Arts galleries, attending lectures, recitals, exhibits, even parties at the Institute. Since graduation many of them have visited similar institutions in other cities and have returned home realizing that the Institute is one of the finest organizations of its type in the country, or for that matter, the world. No wonder, then, that they feel they must share the responsibility of help-

ing to preserve one of Pittsburgh's most precious possessions.

The Advisory Committee helping with plans includes James M. Bovard, Robert C. Downie, Mrs. Ernest Hillman, Mrs. Albert S. F. Keister, Hon. David L. Lawrence, Herbert A. May, Augustus K. Oliver, and Irwin D. Wolf.

The Dinosaur Ball is not an invitation affair. Everyone is welcome. It is a costume ball with the inspiration for dress supposedly coming from the collections of the Fine Arts department or the Museum. Since nearly every subject under the sun is touched upon in one or the other of the departments, almost anything is likely to appear. For those who do not wish to be in costume, formal attire will be in order.

The tickets for the ball are \$5.00 each, tax included; a box for six persons is priced \$100, and tickets for sponsors are \$25 for two. Tickets may be purchased at booths in many of the downtown department stores or from the Dinosaur Ball Committee, 122 Whitfield Street.



A hard-working but merry group plans the Dinosaur Ball: FRONT ROW, Sibyl Godfrey, Gloria Gellatly, James W. Lindsay, Chairman Virginia Belle Reed, William C. Adams, and Dorothy Willison; BACK ROW, Sallie Doerschuk, James W. Ross, Robert S. Kimball, Jr., John Conner, and Byron Henderson.

"THE LADY'S AT WORK"

BY ANTHONY ARROTT

Associate Editor, "Carnegie Tartan"

PROFESSIONAL amateurs—a senseless combination of words, but none better describes the Carnegie Tech students who are combining experience and talent to produce Scotch and Soda Club's 1948 revue, *The Lady's at Work*. Many of the two hundred drama students, artists, musicians, costume-design students, engineers, and technicians behind the production have come from professional fields attracted by the education offered at Carnegie.

George Wood, the author of *The Lady's at Work*, wrote and presented shows for five years in the United States Army in England, France, and Germany. He has written songs for English musical-comedy stars Beatrice Lillie, Hermoine Gingold, and Elizabeth Welch. The recent London musical *Sweetest and Lowest* used several of his tunes. Now from Wood's prolific pen have come twenty-seven songs that carry a novel theme through two acts and twenty-eight scenes. George Wood at twenty-nine is in his senior year as a playwriting major in the drama school.

Music for this year's revue is arranged and directed by twenty-five-year-old music student Richard Hoch. A professional musician, Hoch has played trombone with "name

bands" Randy Brooks and Bob Astor, and also arranged music for several other orchestras. Working under Hoch are forty-two arrangers and copyists and an orchestra of twenty-eight musicians—all professionals—many of whom have played with well-known popular orchestras.

Gloria Bergman, who sings the lead in *The Lady's at Work*, has been vocalist for a local band and recently made her radio debut on her own program with David Crantz, president of Scotch and Soda. Opposite Miss Bergman is Louis Edmonds, noted not only for his fine singing voice but also for his acting ability as shown in drama-department productions.

The revue itself is directed by Lawrence Carra of the drama department faculty, who produced *The Great Magician* this year in the Little Theatre.

The Lady's at Work is a gay tune-ful show with twenty-seven songs—ballads, novelties, and blues, its humor and music seasoned with just a pinch of sophistication. Unlike the usual college musical, Scotch and Soda's revue this year is not a show of local

humor that only a student can appreciate. It is written, instead, for the public, with a theme so novel and with such originality in tunes and lyrics that



COMPOSER GEORGE WOOD AND LADIES
WORKING TOGETHER OVER THE SCORE



COLETTE CRAWFORD, HERBERT SAIGER, AND DANCERS

the production may well be labeled "Broadway caliber." Knowing that probably never would the Club have so many actually professional members as now under the "GI boom" to education, Scotch and Soda officers decided on this new adventure.

The theme of the show is that of women at work, in the city and on the farm: in the city as department store clerks, usherettes, manicurists, and charwomen, and as women of leisure "working on" men; then on the farm as milkmaids, farmerettes, and cooks.

The Lady's at Work is not only a new revue, but it has a "new look." Over a hundred costumes designed by Alfred Lehman, drama department junior, follow the theme of the show as the stress is on the high fashions of the city in the first act and on the "new look" down on the farm in the second. Lehman's costumes have attracted attention from Pittsburgh fashion editors and experts and have been an important source of

publicity for the show. The designs have been executed by Arlene Dumond, stage-costume-design major from the drama department, with the help of the clothing students from Margaret Morrison Carnegie College.

The sets for Scotch and Soda productions present a unique problem, since there is no curtain on the

stage of Carnegie Music Hall. For *The Lady's at Work*, five revolving platforms eight feet in diameter are placed across the back of the stage, with upright flats carrying the scenery. While one scene is playing, the next is hung on the back of the flats. The scene changes in full view of the audience as from one to all five of the stages are turned. These revolving stages lend themselves well to the "expanded intimacy" of *The Lady's at Work*. The sets have been done by scene-design majors from the drama department in co-operation with students from the department of painting and design at Carnegie Tech.



ORCHESTRA PRACTICE WITH RICHARD HOCH CONDUCTING

The Lady's at Work marks the sixth production of Scotch and Soda Club. The first show, *No Strings*, ran for two performances in the Carnegie Music Hall in 1938. The next year a revue, *Take It Straight*, was done and followed in 1940 by *One on the House*. The last Club endeavor before the war, the 1941 show, was *Here's to You*. With the return of the veterans the Club was re-activated, producing a lively musical about college life, *Rock 'n Riot*, that ran for three performances in Music Hall last May.

Now, with *The Lady's at Work*, and Scotch and Soda Club aiming at new successes, a matinee performance for Thursday, May 13, has been added to the three regular evening shows scheduled for May 11, 12, and 13.

SCHOLASTIC AWARDS

(Continued from page 297)

which I have been associated."

Scholastic Awards represent a co-operative program in still another sense, for they embrace all the creative and communication arts. While the art juries were in session, another group of judges—forty-nine writers and journalists—were selecting the winning manuscripts for the Scholastic Writing Awards. The National Scholastic Photography Exhibition will take place at Rockefeller Plaza in New York in June. The National Scholastic Industrial Arts Awards Fair will open at the Chicago Museum of Science and Industry on August 22, and next year will see the resumption of the Scholastic Creative Music Awards.

We are constantly being asked for figures, for statistics on the number of students participating in the Awards. We feel that we can never compute the exact total of all the numbers of students who have been stimulated, inspired, and encouraged through this co-operative program. The sum total of creative energy that has gone into the Awards through these twenty-one years is beyond calculation.

TREE OF THE MONTH



HERE and there along our hill-sides, usually where limestone outcrops, blooms the redbud, one of our most interesting trees. Seen mixed with the dark blue green of the red cedar in the limestone hillsides of south-central Pennsylvania, or along the fence rows of Kentucky's bluegrass regions, flowering redbuds are a joy indeed. The redbud is a denison of the Southland, ranging from Florida to Texas and northward, and in our own region extending only about fifty miles north of Pittsburgh.

The redbud is a small, roundheaded tree of the pea family, bearing its seeds in flat, winged pods. The flowers are rose pink, half an inch long, shaped somewhat like a sweet-pea flower but borne in dense clusters along last year's twigs or sometimes even from the sides of larger branches.

Like most members of the pea family, the leaves of the redbud have a swollen, flexible structure at the base of the petiole called a pulvinus. In many species of the family the pulvinus responds to certain stimuli, causing the leaf to change its position. A mere touch, for instance, makes the leaf of a sensitive plant to droop, while lack of light at night causes black locust leaves to "go to sleep."

In the pea family the leaves are usually compound, such as clover with three leaflets or the lupine with several. Usually each leaflet has its own pulvinus, like that of the main petiole.

Since the redbud leaf has a pulvinus at the base of the petiole and another at the base of the blade, it is believed that the leaf once was composed of several leaflets, all but one of which have disappeared. The redbud thus can be said to be very unusual in having a compound leaf with, however, but one leaflet.

—O. E. J.

WASP PARASITES

BY GEORGE E. WALLACE

Assistant Curator of Entomology, Carnegie Museum

IN a corner of the Entomology laboratory at Carnegie Museum sits a dust-covered green fruit jar competing for space with an ink bottle and a miscellaneous assortment of vials. The fruit jar, filled with quite ordinary-looking walnuts, seems to warrant little more than a passing glance. Yet this jar is a microcosm complete with life, death, competition, and even exploitation; a universe limited in space by curved green glass, in time by the amount of nourishment and moisture contained in a few walnuts.

It all began last October as I was glumly surveying a bowl of walnuts which, I had just discovered, were infested by the saw-toothed grain beetle, a cosmopolitan pest of stored vegetable foods. Several of the beetles reposed motionless on the nuts, apparently looking at me with equal glumness. Suddenly across one of the walnuts a tiny black speck flashed into view and disappeared in a twinkling. A second later it reappeared. About half the size of a pinhead, the tiny insect darted here and there for all the world like a weasel in a woodpile. And indeed the comparison to a hunting weasel is not too inapt, for this insect, a wasp, was busily engaged in seeking its prey, the young of the saw-toothed grain beetle.

At the sight of the darting black speck I experienced the growing excitement that must be felt by the prospector who thinks he sees a glimmer of yellow in his pan. Evidently this was a parasitic wasp, and offhand I could not recall any wasps known to be parasitic on the saw-toothed grain beetle. Here might be not only a new species, but also the host insect, and an opportunity to study the wasp's life history. Alas! A brief glance into entomological litera-



W. H. Ashmead

SOUTH AMERICAN PARASITIC WASP
(Greatly enlarged)

ture the next day showed that my wasp had been discovered many years ago, and that since the time of its description the life history had been thoroughly investigated. Yet so interesting was the account of the tiny creature's habits that I could not feel that my interest had been entirely wasted.

My diminutive huntress, who bears the imposing name of *Cephalonomia tarsalis* Ashmead, is a borderline case between parasite and predator. The female wasp seeks out the larvae and pupae—generally the former—of the saw-toothed grain beetle. She attacks approximately twenty-five beetle larvae or pupae during the course of her life. Quickly she stings each hapless victim into immobility and drags it to some nearby crevice. Two eggs are then deposited upon the thorax of the host. A trait marking *Cephalonomia tarsalis* as really unique in her habits is her impartial and methodical way of maintaining a nearly fifty-fifty sex ratio among her children. The egg placed closer to the front of the host usually develops into a female offspring, where-

as the second egg produces a male!

The young are footless, maggotlike little creatures who waste no time in inserting their heads into the body of the host. In fact, before they have completely emerged from the egg capsule the young wasps are already feeding upon the body fluids of the unfortunate beetle larvae. By the time the wasp larvae are ready to transform, four days later, the host has been reduced to an empty shell.

The time of transformation, or pupal stage, is passed within a tough silken cocoon. This stage may last throughout the winter, the helpless pupa being protected by its silken covering from mites and various species of grain beetles.

By immobilizing and transporting her prey, *Cephalonomia tarsalis* has behaved as a predator. Most of the larger and better-known predator wasps, however, construct a burrow or nest to which they bring their prey. Some of these wasps provide each of their offspring with several victims.

Less well known than the predator wasps are a vast assemblage of parasitic wasps whose young live within or upon their living insect hosts. In most cases these wasps place their eggs directly within or upon the host insects. In other species the young larvae are active enough to find and enter the host. An insect which has been so parasitized continues its activities until the parasite or parasites emerge. When ready to emerge and pupate, the parasites consume the vital organs of the host. While insect larvae and pupae are most frequently parasitized, there are a great number of parasite wasps that attack insect eggs. Because the hosts are destroyed, some entomologists prefer that the term "parasitoid" rather than "parasite" be applied to the wasps.

An important role in the natural control of insect populations is played by both parasitic and predacious wasps. Many, particularly the parasitic wasps, are of especial importance to man in

helping him to control injurious insects. Because wasp parasites usually are limited in their selection of hosts to certain species, it is possible for government entomologists to import desired wasps to combat a particular insect pest. Frequently when an obnoxious insect has been introduced accidentally into this country, the specific parasites of that insect have been imported from its native home.

Not all of the wasps are so useful to man. Some species are parasitic upon other wasp parasites, a condition which has been designated as hyperparasitism. Occasionally these secondary parasites are in turn parasitized by tertiary parasites. When a wasp species is being imported, the life history of the wasp and its interrelationships with other insect parasites must be closely studied. Sometimes species that at first appeared promising as allies have later proven to be ineffectual or even harmful.

Our little *Cephalonomia tarsalis*, I regret to say, has been weighed and found wanting as a means of effective control of the saw-toothed grain beetle. Even I can see, by looking into her green glass universe, that the numbers of her progeny have so far failed to keep pace with the growing beetle population. But let us not judge her too harshly on that account. It may be from only the purely selfish human viewpoint that she is a failure. By her unique, methodical habits, the success of her species perhaps may be better assured than those of her more prolific "useful" cousin parasites.

TECH MUSIC

THE student symphony orchestra and chorus of Carnegie Tech, under the direction of Frederick Dorian, will give a program the evening of May 5, in the Music Hall. Compositions by Handel, Walter Piston, Roy Harris, Paul Hindemith, Virgil Thomson, Randall Thompson, and Anton Bruckner will be included in the concert, which is open to the public.

SPRING SALAD GREENS

By LEROY K. HENRY

Curator of Botany, Carnegie Museum

SKETCHES BY ELINOR S. HENRY

SPRINGTIME renews our interest in eating salads and potherbs. Many of the edible wild plants may be used as salads and are also very tasty when cooked and seasoned as potherbs—incidentally offering an antidote for today's greengrocery bills.

Dandelion greens call to mind a bowl filled with freshly chopped, chilled leaves of dandelion mixed with some leaves of wild lettuce, chicory, and a few tender leaves of dock, water cress, and winter cress, the whole seasoned with vinegar, oil, salt, and a dash of pepper. On the other hand, perhaps you like your "greens" heated, just enough to wilt the leaves, in a frying pan containing finely chopped, cooked bacon, then flavored with vinegar. If you prefer potherbs served like spinach, there are the tender sprouts of the bracken fern, the thick shoots of the pokeberry, the young leaves of the docks, the gray-green stems and leaves of the lamb's quarters, and the succulent young tips of branches of the purslane.

The common dandelion, which scarcely needs describing, makes a very fine potherb. To get rid of the bitter taste, use two waters in cooking the young tender leaves. Cover them with boiling water which, after it comes to a boil again, should be discarded and a



WATER CRESS

second water, not boiling, added. After cooking, they may be dressed with a little cooked, chopped bacon and vinegar. The young leaves also make a very tasty salad served with vinegar and sea-

soning, and are sometimes blanched.

The leaves of the sow thistles and of the wild lettuces—plants closely related to the dandelion—may be served in the same manner or as a mixed salad with dandelion. They are found as weeds in open places in woods, in cultivated fields, along fence rows and roadsides, in rich, moist soil. These wild lettuces have smooth or prickly basal leaves, deeply cut, often to the midrib,



CURLED DOCK

and five to twelve inches long. Later in the season, their tall flowering stems bear clasping variously cut and toothed leaves and numerous yellow flowers about one-half inch high.

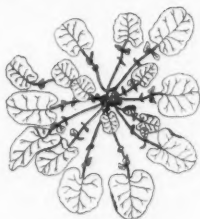
Chicory, a native of Europe and Asia, has escaped here and become a weed in old fields, along roadsides and in waste places. Its leaves are chiefly basal, three to six inches long, spatulate, with entire, lobed, or toothed edges. The flowering stem, appearing in late summer, is from one to three feet tall, with small, clasping leaves and large heads of blue flowers. Those who relish the dandelion greens will also like this plant either as a salad or potherb, or mixed with dandelion and wild lettuce.

Growing along the roadsides, in old fields, empty lots, and even in swamps, are the docks, which belong to the buckwheat family. They are stout plants with large basal leaves that vary from six inches to over a foot in length and taper to rather stout leaf stalks. At the point of attachment of the leaf stalk

and the stem, surrounding the stem, is a thin, papery, collarlike membrane. Its flower clusters are tall and wandlike, bearing clusters of tiny, greenish to purplish flowers. The new leaves of these docks are edible as greens and can be used from spring until summer, at which time they become tough. They add flavor to a mixed salad of other greens, but are chiefly used as a potherb. Since these leaves have a strong taste, it is best to throw off the first two waters in which they are cooked. This potherb is utilized by European peoples and by some tribes of American Indians.

If you happen to be tramping through the woods and fields on a warm spring or summer day and become thirsty, try nibbling a few sheep sorrel leaves as a thirst-quencher. The sour, acid taste of these leaves is due to the presence of potassium oxalate, which may be detrimental if eaten in excess. A small amount of the fresh leaves may be used as seasoning for rice or potatoes or may be mixed with other salads. These plants are similar to the docks but are smaller, and many of the basal leaves are shaped like arrowheads or spearheads.

The mustard family, which gives us many of our cultivated vegetables such as cabbage, kale, broccoli, kohlrabi, cauliflower, Chinese cabbage, radish, turnip, also furnishes us with many edible wild plants. Probably the most familiar one is the water cress, naturalized from Europe, that grows best in clear, cold streams, pools, or springs, as a creeping or floating plant. The leaves are compound with from three to nine segments, the terminal one the largest. The leaves and tender shoots of this plant have been used for salads since ancient times. In this country it is



WINTER CRESS

grown in large quantities for the markets of our cities. In gathering the plant in its native habitat, care should be taken against confusing it with other water plants, since the deadly water hemlock

often grows along with the water cress.

Spring cress, belonging to another group, is found in springy woods and swampy places. It is easily recognized by its bulbous or tuberous, thickened, white rootstock and scattered, alternate, oval leaves upon an upright stalk. Its tender young leaves and stems have a flavor of horseradish and make a pleasant salad.

In eating any of the water plants, care should be taken that the water is not polluted. To disinfect such plants, it is recommended that a Chlorozene tablet be added to the water in which they are washed.

Winter cress or yellow rocket, so common in our cultivated fields and gardens and often mistakenly called wild mustard, is found by some to be quite as good a potherb as dandelion. These leaves are quite bitter so they should usually be cooked in two or more waters. This plant forms rosettes of bright green and glossy leaves, compound with a terminal lobe and one to four or more lateral pairs of leaves that remain fresh all winter. In April appear tall flower stalks bearing clusters of bright yellow flowers.

Another familiar edible weed of the garden and waste places is the shepherd's-purse, with its basal rosette of longish leaves, entire or coarsely toothed, and an elongate flowering stem bearing small white flowers and flat, inverted-triangular seed pods. The new growing foliage is sometimes cooked like spinach, and its turniplike odor and taste are relished as a special treat by many.

It may seem strange to learn that the



SHEEP SORREL

marsh marigold, a member of the buttercup family, is used as a potherb in many parts of the country. The plants grow in swampy places or wet meadows along streams and attain a height of twelve to eighteen inches. The basal leaves are on long, fleshy stems, while the upper leaves are nearly stemless and their blades are heart- or kidney-shaped, three to six inches across with margins entire, wavy, or toothed. In April or May bright yellow, glossy blossoms, nearly one and one-half inches wide, appear. In the early spring before flowering time the leaves and stems are gathered, boiled, and served in the same manner as spinach.

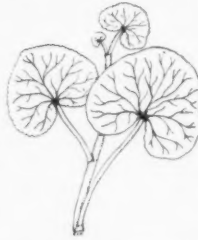
Even the ferns have not escaped the list of culinary delicacies. In the early spring, just as the tender stalks and leaves of the bracken fern are unfolding, they may be gathered, cooked, and served like asparagus. The bracken is perhaps our most widely distributed fern, preferring open places in woods, pastures, along roadsides, and in waste places.

In clearings in the woods, along roadsides and borders of cultivated fields, grows the tall, coarse pokeweed, with alternate, entire leaves, often six to ten inches long, the stem becoming purple and bearing clusters of purplish black berries. The new shoots of this plant are edible and are available from

April to early June, depending upon the locality. Care must be taken not to include any of the roots in with the green, since these are poisonous. When the stems become older, they develop a purple bark or rind which is also poisonous. In cooking them, it is always best to boil in two waters.



POKEWEED



MARSH MARIGOLD

The French have taken this plant to Europe, where it is cultivated as a garden vegetable. Although not strictly cultivated in the United States, it is sold on the markets under the name of "sprouts" in our

southern cities and in Chester County, Pennsylvania.

A little later in the season we find the lamb's-quarters growing as a weed in our gardens, in roadside ditches, and in farm barnyards. This plant is highly prized by Europeans, but Americans seem prejudiced against it, although those who eat it without knowing that it is a common weed think it is delicious. It is a valuable wild crop that can be harvested before the planted vegetables are in season. Other members of the goosefoot family are equally good as potherbs, probably the best being the orach, which grows along the seashore.

These are but a few of the more familiar salad and potherb plants that grow in our region. In other parts of the country are various wild plants that are put to similar uses. It may be that among those mentioned you will find a tasty dish or culinary novelty or, at least, an appetite whetted by exploring fields, woods, and roadsides in quest of these plants.

INDEX

to VOLUME XXI of
CARNEGIE MAGAZINE

June 1947 through May 1948

will be mailed on request.

Send name and address to
CARNEGIE MAGAZINE
4400 Forbes Street
Pittsburgh 13, Pa.



THE GARDEN OF GOLD



THE private library of the late John Worthington, pioneer in the petroleum industry of western Pennsylvania, has been presented to the Carnegie Library of Pittsburgh by his grandchildren, Mrs. Raymond Ford Moreland and Worthington Johnson, in memory of Mr. Worthington's wife, Mary Ellen McCleary, and his daughter, Mary Worthington Johnson. The library, which consists of a Welsh collection and a great deal of Americana, numbers more than four thousand books. Mrs. Moreland and Mr. Johnson have also given a trust fund of \$4,000, the income to be used to add current books to the Welsh collection. Mr. Worthington was born in Wales and was always very much interested in that country although he came to western Pennsylvania as a boy of four years. A full description of the John Worthington memorial library will appear later in *CARNEGIE MAGAZINE*.

The Library is also the recipient of \$125 from the Bertha K. Blum Memorial Fund of The Pittsburgh Foundation for the purchase of a radio-phonograph for the Homewood Branch. The machine is being used for noon-hour concerts of fine recordings and for recorded stories for children.

Two gifts of \$100 each have been presented to Carnegie Institute in memory of William Frew by the board of governors of the Fox Chapel Golf Club and by Carroll H. Fitzhugh, thus bringing these memorial gifts to a total of \$1,000.

No large gifts were received during March for the Carnegie Institute of Technology endowment, but gifts of less than \$100 each amounted to \$193. With this, the additions to endowment given since July 1, 1947, when the four-million-dollar endowment drive was completed, amount to \$16,884.

The March gifts include two United States Savings Bonds sent by Harold J. Apell for the Norman Apell Memorial Award Fund in the School of Drama.

They also comprise contributions to the Faculty Memorial Scholarship Fund in memory of three faculty members, Dr. Joseph Hidy James, Professor C. Charles B. Walker, and Miss Jean D. Seaman.

Among these gifts also is a second contribution of \$25 from J. Lawrence Hopp for the Stewart L. Brown Memorial Scholarship Fund.

SOCIAL WHIRL

MAY brings a number of pleasant social events to the Institute.

The Garden Club of America, holding its national meeting in Pittsburgh, will banquet in the Halls of Architecture and Sculpture the evening of May 12.

On the 19th the board of the Allegheny County Federation of Women's Clubs will lunch in the building. The group will be joined by presidents of more than one hundred Clubs for a tour of the Institute, followed by tea.

The Dinosaur Ball for the benefit of The Fine Arts and Museum Society of Carnegie Institute comes May 21, at the Hotel Schenley.

SPEAKING IN LONDON

DR. ROBERT F. MEHL will deliver the Hatfield Memorial Lecture on May 5 in London, during the annual meeting of the Iron and Steel Institute of England, speaking on the fundamentals of heat treatment of steel. The subject is one on which the Metals Research Laboratory at Carnegie Tech, which Dr. Mehl heads, has done extensive research during the past ten years.



"THE PLAY'S THE THING"

BY AUSTIN WRIGHT

Head, Department of English,
Carnegie Institute of Technology



THE production of *The Taming of the Shrew* by the Department of Drama in April marked the third time that the play has been performed at Carnegie Tech. It was first staged here in 1923, and nine years later a modernized version was performed in modern dress. The most recent production, directed by B. Iden Payne on a stage adapted from the Elizabethan, was spirited, colorful, hilarious. One sometimes wonders how far greater Shakespearean plays, notably such a highly intellectualized and somber tragedy as *King Lear*, held attention of the groundlings in the Globe Theatre; but Mr. Payne's fast moving, farcical production of *The Taming of the Shrew* would without question have been a spectacular success on the banks of the Thames three hundred and fifty years ago, just as it was in the College of Fine Arts last month.

This comedy has been the subject of endless controversy with regard to origin and workmanship. It clearly has close ties with a presumably earlier play called *The Taming of a Shrew*, which has survived, and though the traditional view is that the play printed in the First Folio of 1623 is a reworking by Shakespeare of the earlier version by an unknown author, some scholars contend that *A Shrew* was itself written by Shakespeare and later revised by him, and it has even been ingeniously reasoned that the crude *A Shrew* is a later and corrupt version of the Shakespearean *The Shrew*. Further, it is widely believed that, in writing the play as we now have it, Shakespeare had the assistance of a collaborator. Even the casual reader who cares nothing for arguments as to discrepancies in style and meter notices superiority of the Christopher Sly and shrew-taming scenes to the Bianca

courtship, but though collaboration may well be the answer it is not the only possible one. There are other plays, almost certainly Shakespearean from start to finish, that are sadly uneven in quality.

The Taming of the Shrew opens with an "Induction" in which Sly, a drunken tinker, becomes the victim of a practical joke whereby he is made to believe himself a nobleman who has suffered from amnesia, the play proper being presented for the entertainment of the "noble lord." Only once after the action gets under way does he volunteer a comment, and the remark he makes on that occasion reveals a boredom which, it is generally thought, is intended to prepare the audience for his falling asleep and eventual removal. At any rate, in the Folio text the Sly framework is henceforth abandoned, and the story of the wooing of Kate and Bianca proceeds exactly like that of any other comedy. Mr. Payne, however, believes that the present text is an abridged one used by a company touring the provinces, and that if we had the text as Shakespeare wrote it we should find the same pattern as in *A Shrew*, with Sly breaking into the dialogue occasionally until nearly the end, then sinking into a stupor and being carried out, and finally awakening once more before the alehouse where the nobleman had first encountered him. According to this view, the elimination of Sly and the other spectators in the abridged text was made necessary by the fact that the actor playing the tinker had to double in the role of the pedant, who comes on in Act IV to be at once cajoled into posing as Lucentio's father Vincentio. Acting on this theory, Mr. Payne ingeniously wove into the play from the



STUDENT ACTORS IN A SCENE FROM "THE TAMING OF THE SHREW"
PRODUCED LAST MONTH IN THE LITTLE THEATRE AT CARNEGIE TECH

text of *A Shrew* certain interjections of Sly with respect to the action, and added from the same source an epilogue in which Sly, awakening from what he now believes to have been a "brave dream," sets off homeward to tame his own shrewish wife.

Certainly this theory is a logical one, and I am not disinclined to subscribe to it. The unexplained disappearance of Sly in the Folio text is mystifying and dramatically awkward, whereas the byplay resulting from the continued presence of Sly and the genuine Lord on the stage is potentially amusing. Yet one might ask, first, whether it is not equally likely that Shakespeare himself, believing Sly's usefulness to be ended and perceiving the anticlimactic nature of the epilogue, departed deliberately from the original; and, second, whether, if he did not indeed follow such a procedure, he shouldn't have done so! Both questions must remain a matter of opinion, and playgoers who saw the production will take sides according to whether they considered the additions from *A Shrew* on the whole a

success or on the whole a failure. Though I was glad of the opportunity to see the experiment tried, and though some of the stage business made possible by it was amusing, I stand with the conservatives in this matter. Not only is the epilogue an anticlimax, but it is vastly inferior in quality to the Induction; and after the second or third interruption of the action by the ubiquitous tinker (pronounce that carefully) one would willingly be allowed to forget him. Hamlet was right in warning another company of traveling players, "Let those that play your clowns speak no more than is set down for them." One element stemming from the additions, however, I should have been sorry to miss: Mr. Payne's clever idea of making the actress playing Bianca an incorrigible coquette who flirts madly with the stage spectators and entices the Lord into interrupting the action to arrange an assignation with her.

The production was loaded with stage business which gave the audience a merry evening and the actors an exhausting one. Occasionally the comic

behavior was overdone, as when several characters spoke in chorus, Hortensio stumbled over the groveling Grumio, Sly insisted on shaking hands with every new player who made an appearance, or time after time the snap of Petruchio's whip made Grumio hop. But examples of successful business throng to mind: the infuriated bound by which Katharina on one occasion gives expression to her wrath, the brow-beating tactics which Petruchio employs in making love to Katharina on their first encounter, Baptista's hurried granting of his paternal blessing, Grumio's comic echoing of his master's demands in the scene when Petruchio comes to claim his bride, the scampering of the servants when in terror of Petruchio's temper, and the brazen flirtatiousness of Bianca already referred to.

The actor who played Petruchio in the first cast gave a masterful performance marked by skillful timing and by a sublime confidence which made the ultimate subduing of even an unusually powerful Katharina seem inevitable. The Petruchio of the second cast was less vigorous and spoke just a little too rapidly, so that occasionally the full effect of a speech was lost—for instance, the humorous plea which Petruchio makes to any member of the audience who can show him a better way to tame a shrew, ending with "Now let him speak: 'tis charity to show." But this second Petruchio was warmly appealing.

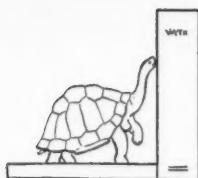
Both actors in the role of the drunken tinker had splendid voices and gave to the role of "Old Sly's son of Burton Heath" a robust maturity seldom found in young actors. The hearty, muddled uninhabited Sly of the Induction seemed to me superior to the Sly of the later scenes, whose toping and leering and heckling waxed tiresome. I thought both actors in the role of Grumio extremely comic. The first Grumio was more successful in the early part of the play, and the second was at his best in the scene of Petruchio's arrival for the

wedding, "not so well apparell'd."

It is a tribute to Mr. Payne's direction that the Bianca plot came to amusing life on the stage in a way which a reader would hardly expect. This threadbare Italianate comedy of intrigue could easily become tiresome, but somehow it never did so in this production. The portrayals of Gremio, the dotard suitor of Bianca, were perhaps the most successful in this group of characters. The servant Biondello has one grand scene in which he describes the approach of the fantastically garbed Petruchio, and the tongue-twisting and lung-torturing volubility with which the actors poured out their news made this brief bit a high spot. The small role of the Tailor, traditionally represented as a stutterer, was a comic masterpiece.

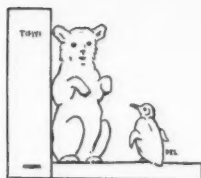
The Taming of the Shrew, like all other Elizabethan plays, is sparing of roles for women. Aside from Katharina and Bianca there is simply nothing. Kate of course, though the part actually contains comparatively few lines, is a prize, and has been so regarded by generations of actresses. Both Kates were extraordinarily effective. They were perhaps too stormy in the early passages—so wrathful, so unrestrainedly furious that there were no more stops to pull out in the really big scenes—but the transition from tempest to calm, from scowls to smiles, was beautifully portrayed, so that one remembers most clearly the amiable, dimpling, sunny-hearted Kate of the final episodes. The famous speech of reproof to the rebellious ladies was spoken with infinite good humor and charm. Bianca, the winsome, outwardly timid but actually resourceful little cat, was delightfully played.

Admiring mention must be made of the brilliant and beautiful Elizabethan costumes, especially those of the bridal couple in Act V, and of the ingeniously simple sets designed by Lloyd Weninger for facility of transportation during the tour of local high schools made by the company after the close of the run in the Fine Arts Theatre.



THE SCIENTIST'S BOOKSHELF

By O. E. JENNINGS
Director, Carnegie Museum



WILD FLOWER GUIDE: NORTHEASTERN AND MIDLAND STATES. By EDGAR T. WHERRY. Illustrated by Tabea Hofmann. Garden City: Doubleday and Company. 1948. 202 pp., 232 figures black and white, 192 full color. \$3.00. Carnegie Library call no. 580 W61.



THE area covered by the *Wild Flower Guide* extends south to southern Virginia and southern Illinois and west to central Nebraska. From the Ohio-Indiana state line east are the "Northeastern States"; to the west, the "Midland States." Prairie plants occur conspicuously as far east as the Castalia prairie near Sandusky, Ohio, and become increasingly common westward through the Midland States. The local eastern outposts of the prairies are probably remnants of much more extensive grasslands which have since been encroached upon by the forests.

There are probably at least five thousand different species of herbaceous flowering plants in the region covered by the *Guide*, but Dr. Wherry says only about four hundred of them are conspicuous enough to be classed as wild flowers. For the selection of these he is well qualified, having botanized widely over the area.

In our own region we remember being stuck in the mud with him on a treacherous ravine road below Sewickley, on a search for the dainty moss phlox; also the bumpy, rocky mountain roads on the way to some of his newly discovered shale-barren plants in southern Pennsylvania.

Comparatively few plants are to be found in the whole area included in the *Guide*. After the close of the Glacial

Period, some twenty-five or thirty thousand years ago, many hardy plants spread northward and are now to be found only along our northern border or as relicts in cold woods and bogs, or southward along the higher, cooler, mountain uplands. Other hardy plants incapable of spreading so fast, like the walnut with its large heavy seeds, have lagged behind. Less hardy plants have spread northward east and west of the mountains, but have avoided the cooler elevated uplands. Others, even if hardy as to the climate, are confined to shady forests; many demand open well-lighted spaces; certain plants are limited to acid soils, such as the trailing arbutus and wintergreen; while the robin's-plaintain and mountain fringe, in our region at least, occur only on limestone outcrops; and the pitcher plant, only in very acid sphagnum bogs.

In western Pennsylvania there are more than two thousand kinds of herbaceous flowering plants, but no one county has many more than half that number. It is thus difficult to select representatives for all sections of a large area. We would like to have seen at least twice as many species chosen. For western Pennsylvania, we look in vain for the blazing star (*Liatrix spicata*), which in late summer makes a glorious display in fields between Butler and Slippery Rock; the cow parsnip, whose large, white, flat-topped flower clusters are so conspicuous on low ground along creeks in early summer; the charming, fleecy-white sprays of the goat's beard along moist, half-shaded ledges in early summer; the towering, yellow-flowered, spiked lettuce of moist fields and road-

sides in early fall; the low, old-field goldenrod, whose golden plumes dominate many a neglected field in early fall; and several of the asters, such as the common white, panicked aster of fence row and vacant lot, the beautiful blue, Lowrie's aster of woodland edges and half-shaded banks, the stately white, arrow-leaved aster of neglected fields, and the white-heath aster of late fall roadsides. However, being limited to four or five hundred species, Dr. Wherry selected well, choosing, for instance, from widely separated regions the pine gentian of the southeastern sandy pine woods from New Jersey to Florida; the prairie gayfeather of the western prairies; and the round-lip twayblade of the cold northern borders.

There is a glossary, directions as to the use of the *Wild Flower Guide*, and separate keys to the families of monocots, free-petal dicots, and united-petal dicots. After the family is determined, the search must be from species to species, aided by the notes on geographic range, nature of habitat, and particularly by the 424 small but quite satisfactory figures, partly in color, four to a page and conveniently grouped. It might be better if Appendix 1, which lists the flowers according to flower color, were at the beginning of the guide. Appendix 2 is devoted to about one hundred introduced wild flowers, many of which are weeds. Perhaps it would have been better not to have separated these plants from the main text. The common names, largely unfamiliar to most users of the *Wild Flower Guide* are, in part, those published in *Standardized Plant Names* and apparently in part devised by the author himself. We are pleased to note that he uses the name "snow trillium" for *Trillium nivale* and not for *Trillium grandiflorum*.

Ecology, which concerns itself with the relationships and adaptations of plants and animals to their environment and to each other, is briefly outlined in Appendix 3. An ecological viewpoint is essential for success in

agriculture, forestry, management of grazing ranges, and in wild-flower conservation, to which latter subject two interesting pages are devoted. Dr. Wherry, it may be said, is vice president of the Wild Flower Preservation Society, Inc., at Washington.

It is not enough to know merely the name and family of a wild flower. To really appreciate and enjoy it fully we should know its habitat, soil preference, geographical range, the kind of company it keeps—its plant associates—how its seeds are distributed, how it reproduces itself—whether pollinated by wind or insects and, if by insects, how they are attracted to it.

Our neglected fields are usually soon occupied by weeds; followed soon by grasses, goldenrods, asters, dewberries; then by a thicket of shrubs such as blackberries, sumach, sassafras, or in vacant lots in the city by *Ailanthus*; then by trees such as black locust, red maple, wild cherry, crab apple, or hawthorne, which may in turn eventually be replaced by a forest similar to the original forest of the area. The observation of such ecological successions and the part the various wild flowers play in them adds great interest to a trip through the fields and woods.

Wild Flower Guide gives the soil reaction of each plant, whether acid, neutral, or alkaline, with comments on its suitability for a wild garden. The author successively devoted himself to mineralogy and petrology, crystallography, and crop chemistry, devised kits for testing soil reactions, and eventually became professor of botany in the University of Pennsylvania, where he has carried on further research on the interrelations of soils and wild flowers, which he thus literally knows from the ground up. The *Wild Flower Guide* is unique in being an authoritative source of information on the soil reactions of so large a number of wild flowers. For various reasons, it is bound to be not only a very popular and useful book for the amateur, but for professional botanists as well.

INCIDENTALLY

The distinguished Budapest String Quartet will appear in Carnegie Music Hall May 17 to 24, presented in five performances by the Pittsburgh New Friends of Music in celebration of the tenth anniversary of the local group. The complete series of Beethoven string quartets is to be performed for the first time in this city.

« 1 »

An exhibit of work by students in the art classes of Joseph C. Fitzpatrick at Schenley High School will be displayed in the main hall of Carnegie Library through May.

« 1 »

Few men ever have a mountain peak named for them, but Jack Nash of the Department of Fine Arts has been given that honor by his friend, Commander Finn Ronne, who returned last month from explorations in Antarctica. Commander Ronne gave names to a number of heretofore unnamed, or even unknown, geographical formations, and honored several Pittsburghers.

« 1 »

The marble foyer of Carnegie Music Hall with its gold decorations will provide a dazzling setting for the Carnegie Tech Senior Prom the evening of June 25.

« 1 »

Encores on Main Street by H. Talbot Pearson, assistant professor of drama at Carnegie Tech, is now on sale at the college bookshop. This first book published by the Carnegie Press is the result of wide experience in acting, directing, and teaching in theatres in this country and abroad, and concerns successful community theatre leadership.

« 1 »

Marshall Bidwell was presented by the Massachusetts Chapter of the American Guild of Organists in a recital on April 14 at the First Church in Boston (Unitarian).

« 1 »

M. Graham Netting was elected president of the American Society of Ichthyologists and Herpetologists at the annual meeting in New Orleans recently. Grace L. Orton of the Museum staff was elected to the board of governors of the Society, and Arthur W. Henn was re-elected treasurer. The "Ichs and Herps" number nearly one thousand members from all over the world.

« 1 »

Rao Sahab B. V. Gharpure, F.R.S.A., London, curator of the Lord Reay Maharashtra Industrial Museum of Poona, India, has been commissioned by the government of India to study museums, laboratories, libraries, and similar institutions in America. He visited the Carnegie Institute on April 24.

« 1 »

Visitors to Carnegie Institute and Carnegie Library of Pittsburgh numbered 99,662 in April.

The CARNEGIE MAGAZINE freely grants permission upon request to reprint without limit articles that appear in its pages, with the usual credit.

CARNEGIE LIBRARY OFFICERS AND COMMITTEES

JAMES M. BOVARD, *President*
WILLIAM WATSON SMITH, *Vice President*
A. L. WOLK, *Secretary*
THOMAS L. ORR, *Treasurer*

LIBRARY COMMITTEE

A. L. WOLK, *Chairman*
JOHN F. CASEY H. B. KIRKPATRICK
WALTER R. DEMMLER WILLIAM S. MOORHEAD

BUILDINGS AND GROUNDS COMMITTEE

JOHN F. CASEY, *Chairman*
ARTHUR E. BRAUN THOMAS J. GALLAGHER
JOHN T. DUFF, JR. FREDERIC G. WEIR

FINANCE COMMITTEE

ARTHUR E. BRAUN, *Chairman*
JOHN F. CASEY THOMAS L. ORR

AUDITING COMMITTEE

FREDERICK G. BLACKBURN, *Chairman*
WILLIAM S. MOORHEAD A. L. WOLK

« 1 »

STAFF

RALPH MUNN, *Director*
MARTHA V. WIRTH, *Executive Secretary*
WILLIAM W. BRYAN, *Assistant to the Director*
ENID MCP. BOLI, *Readers Consultant*
MARIE A. DAVIS, *Public Relations*

DEPARTMENT AND DIVISION HEADS

ADALINE BERNSTEIN, *Order*
VIRGINIA CHASE, *Boys and Girls*
CATHERINE G. HAY, *Art*
KATHERINE E. CRUMRINE, *Central Lending*
ROSE DEMOREST, *Pennsylvania*
AGNES KRARUP, *Schools*
ELLWOOD H. McCLELLAND, *Technology*
RUTH D. MCCOLLOUGH, *Catalogue*
ALICE T. MCGIRR, *Reference*
IRENE MILLEN, *Music*
ARTHUR D. SCOTT, *Printing and Binding*
LAURA E. CATHON, *Central Boys and Girls*

The Carnegie Institute, in the broadest sense, holds its possessions in trust for mankind and for the constant welfare and happiness of the race. Anyone, therefore, who by a gift of beautiful works of art, or objects of scientific value, or a donation to its financial resources, aids in the growth of these collections and the extension of its service is contributing substantially to the glorious mission of the Institute.

CARNEGIE INSTITUTE

OFFICERS AND COMMITTEES

JAMES M. BOVARD, *President*
 ROY A. HUNT, *Vice President*
 AUGUSTUS K. OLIVER, *Secretary*
 THOMAS L. ORR, *Treasurer*

MUSEUM COMMITTEE

RICHARD K. MELLON, *Chairman*
 FREDERICK G. BLACKBURN H. J. HEINZ II
 GEORGE H. CLAPP W. L. MELLON
 WALTER R. DEMMLER JAMES C. REA
 JOHN T. DUFF, JR. FREDERIC SCHAEFER
 HOWARD N. EAVENSON LAWRENCE C. WOODS, JR.

FINE ARTS COMMITTEE

ROY A. HUNT, *Chairman*
 EDWARD DUFF BALKEN DAVID L. LAWRENCE
 JAMES H. BEAL WILLIAM S. MOORHEAD
 J. FREDERIC BYERS THOMAS L. ORR
 ROBERT E. DOHERTY CHARLES J. ROSENBLUM
 HOWARD N. EAVENSON FREDERIC SCHAEFER
 WILLIAM WATSON SMITH

AUDITING COMMITTEE

FREDERICK G. BLACKBURN, *Chairman*
 WILLIAM S. MOORHEAD A. L. WOLK

FINANCE COMMITTEE

ARTHUR E. BRAUN, *Chairman*
 JOHN F. CASEY THOMAS L. ORR
 ROY A. HUNT JAMES C. REA
 WILLIAM M. ROBINSON

PENSION COMMITTEE

HOWARD N. EAVENSON, *Chairman*
 H. J. HEINZ II AUGUSTUS K. OLIVER
 EDWARD J. LEONARD JAMES C. REA

MUSIC HALL COMMITTEE

WILLIAM P. WITHEROW, *Chairman*
 JOHN F. LABOON JOHN LESTER PERRY
 EDWARD J. LEONARD JAMES C. REA

ADVISORY COMMITTEE

FREDERICK G. BLACKBURN RICHARD K. MELLON
 ARTHUR E. BRAUN AUGUSTUS K. OLIVER
 JOHN F. CASEY THOMAS L. ORR
 HOWARD N. EAVENSON WILLIAM WATSON SMITH
 ROY A. HUNT WILLIAM P. WITHEROW
 A. L. WOLK

STAFF

JAMES M. BOVARD, *President*

J. C. JEFFRIES, *Auditor*
 MELVA Z. BODEL (Mrs. C. G.), *Assistant Treasurer*
 MINNIE C. RANKIN, *Secretary to the President*

DEPARTMENT OF FINE ARTS

HOMER SAINT-GAUDENS, *Director*
 JOHN O'CONNOR, JR., *Assistant Director*
 ANNE K. STOLZENBACH, *Secretary*
 MARGARET M. LEE, *Director of Educational Work*

CARNEGIE MUSEUM

O. E. JENNINGS, *Director*
 ANDREY AVINOFF, *Director Emeritus*
 JOHN CLARK, *Curator of Physical Geology*
 J. KENNETH DOUTT, *Curator of Mammalogy*
 E. R. ELLER, *Curator of Invertebrate Paleontology and Historical Geology*
 OTTMAR F. VON FUERHER, *Staff Artist*
 ARTHUR W. HENN, *Curator of Ichthyology and Editor*
 LeROY K. HENRY, *Curator of Botany*
 J. LeROY KAY, *Curator of Vertebrate Paleontology*
 M. GRAHAM NETTING, *Curator of Herpetology*
 WALTER R. SWEADNER, *Curator of Entomology*
 ARTHUR C. TWOMEY, *Curator of Ornithology*
 ANNE PATRICIA WALLGREN, *Librarian*

CARNEGIE MUSIC HALL

MARSHALL BIDWELL, *Organist and Director of Music*
 ROY B. AMBROSE, *Manager*

DEPARTMENT OF BUILDINGS & GROUNDS

ROY B. AMBROSE, *Manager*
 MARY C. HARDY, *Secretary*

BEQUESTS

In making a will, money left to the Carnegie Institute, the Carnegie Institute of Technology, or the Carnegie Library of Pittsburgh, should be covered by the following phrase:

I do hereby give and bequeath to the

CARNEGIE INSTITUTE

(or)

CARNEGIE INSTITUTE OF TECHNOLOGY

(or)

CARNEGIE LIBRARY OF PITTSBURGH

in the City of Pittsburgh, Pennsylvania

.....Dollars

NOTE: The President is ex officio a member of all Committees.

CARNEGIE INSTITUTE OF TECHNOLOGY

JAMES M. BOVARD, *Chairman*
ROY A. HUNT, *Vice Chairman*
AUGUSTUS K. OLIVER, *Secretary*
THOMAS L. ORR, *Treasurer*

ROBERT E. DOHERTY, *President*

EXECUTIVE COMMITTEE

WALTER J. BLENKO, *Chairman*
AUGUSTUS K. OLIVER, *Secretary*
FREDERICK G. BLACKBURN* F. B. JEWETT
JAMES M. BOVARD *ANTHONY J. KERIN
WALTER R. DEMMLER JOHN F. LABOON
ROBERT E. DOHERTY *ROSSELL MILLER
HOWARD N. EAVENSON WILLIAM S. MOORHEAD
*J. C. HOBBS THOMAS L. ORR
ROY A. HUNT *CHARLES E. WILSON
WILLIAM P. WITHEROW
(*Nontrustee members)

AUDITING COMMITTEE

FREDERICK G. BLACKBURN, *Chairman*
WILLIAM S. MOORHEAD A. L. WOLK

FINANCE COMMITTEE

ARTHUR E. BRAUN, *Chairman*
JAMES M. BOVARD ROY A. HUNT
JOHN F. CASEY THOMAS L. ORR
ROBERT E. DOHERTY JAMES C. REA

STAFF

ROBERT E. DOHERTY, *President*
ELLIOTT DUNLAP SMITH, *Provost*
H. R. PATTON, *Controller*
MELVIN J. VOIGT, *Librarian*

COLLEGE OF ENGINEERING AND SCIENCE

WEBSTER N. JONES, *Director*
WILLIAM R. WORK, *Assistant Director*
J. C. WARNER, *Assistant Director and Dean of Graduate Studies*

DEPARTMENT HEADS

CARL C. MONRAD, *Chemical Engineering*
FREDERIC T. MAVIS, *Civil Engineering*
B. R. TEARE, JR., *Electrical Engineering*
WILLIAM R. WORK, *Acting Head, Management Engineering*
DENNISTOUN W. VERPLANCK, *Mechanical Engineering*
ROBERT F. MEHL, *Metallurgical Engineering*
J. C. WARNER, *Chemistry*
JOHN L. SYNGE, *Mathematics*
FREDERICK SEITZ, *Physics*
—, *Printing*

COLLEGE OF FINE ARTS

B. KENNETH JOHNSTONE, *Director*

DEPARTMENT HEADS

B. KENNETH JOHNSTONE, *Architecture*
HENRY F. BOETTCHER, *Drama*
CHARLES A. H. PEARSON, *Music*
W. A. READIO, *Painting and Design*
JOSEPH BAILEY ELLIS, *Sculpture*

MARGARET MORRISON

CARNEGIE COLLEGE

EDITH M. WINCHESTER, *Director*

DEPARTMENT HEADS

HAROLD L. LANG, *General Science*
CALLA VAN SYCKLE, *Home Economics*
EDITH M. WINCHESTER, *Secretarial Studies*
MARY CLARKE BURNETT, *Social Work*
ROBERT D. GREGG, *Acting Head, General Studies*

DIVISION OF HUMANISTIC AND SOCIAL STUDIES

GLEN U. CLEETON, *Director*
ELLIOTT DUNLAP SMITH, *Maurice Falk Professor of Social Relations*

DEPARTMENT HEADS

G. LELAND BACH, *Economics*
AUSTIN WRIGHT, *English*
ROBERT D. GREGG, *History*
WILLIAM F. KAMMAN, *Modern Languages*
B. VON H. GILMER, *Psychology and Education*

CARNEGIE LIBRARY SCHOOL

RALPH MUNN, *Director*
FRANCES H. KELLY, *Associate Director*

COAL RESEARCH LABORATORY

H. H. LOWRY, *Director*

METALS RESEARCH LABORATORY

ROBERT F. MEHL, *Director*

RESERVE OFFICERS TRAINING CORPS

COLONEL HAROLD A. KURSTEDT, *Professor of Military Science and Tactics*

DIVISION OF STUDENT PERSONNEL AND WELFARE

DOUGLAS F. MINER, *Director*

DIVISION OF PHYSICAL WELFARE

CLARENCE OVEREND, *Chairman of Administrative Committee*

ALUMNI FEDERATION

JOHN L. ELLIOTT, *Executive Secretary*

DEPARTMENT OF PUBLIC RELATIONS

STANLEY R. MARCH, *Director*

BOARD OF TRUSTEES

Under the charters the same thirty-six trustees serve both Carnegie Institute and Carnegie Institute of Technology, and eighteen of them (starred) are also trustees of Carnegie Library of Pittsburgh.

EDWARD DUFF BALKEN
Princeton. Art.

JAMES H. BEAL
*Princeton. Law School University of Pittsburgh.
Reed, Smith, Shaw & McClay. Fine Arts.*

FREDERICK G. BLACKBURN
*Yale. Carnegie Institute of Technology. Vice
President, Mellon National Bank and Trust
Company. Museum, Tech, Auditing, Advisory.*

WALTER J. BLENKO
*Carnegie Institute of Technology. Law School Du-
quesne University. Stebbens, Blenko & Webb.
Tech.*

*JAMES M. BOVARD
Yale. Law School University of Pittsburgh.

*ARTHUR E. BRAUN
*Chairman, Farmers Deposit National Bank.
Buildings and Grounds, Finance, Advisory.*

*J. FREDERIC BYERS
Yale. Chairman, A. M. Byers Company. Art.

*JOHN F. CASEY
*Duquesne University. Chairman, John F. Casey
Company. Library, Buildings and Grounds,
Finance, Advisory.*

GEORGE H. CLAPP
*University of Pittsburgh. President, Board of
Trustees, University of Pittsburgh. Museum.*

*WALTER R. DEMMLER
City Council. Library, Museum, Tech.

ROBERT E. DOHERTY
*University of Illinois. President Carnegie Insti-
tute of Technology. Tech, Art.*

*JOHN T. DUFF, JR.
*Law School University of Pittsburgh. City
Council. Museum.*

HOWARD N. EAVENSON
*Swarthmore. Mining Engineer. Museum, Pen-
sion, Tech, Art, Advisory.*

*THOMAS J. GALLAGHER
City Council. Buildings and Grounds.

H. J. HEINZ II
*Yale. President, H. J. Heinz Company. Museum,
Pension.*

ROY A. HUNT
*Yale. President, Aluminum Company of America.
Art, Tech, Finance, Advisory.*

*THOMAS E. KILGALLEN
*Duquesne University. President, City Council.
Music Hall.*

*H. B. KIRKPATRICK
*University of Illinois. President, Pittsburgh
Board of Public Education. Library.*

JOHN F. LABOON

*Carnegie Institute of Technology. Consulting
Engineer. Chairman of the Board, Allegheny
County Sanitary Authority. Tech, Music Hall.*

*DAVID L. LAWRENCE
Mayor of Pittsburgh. Art.

*EDWARD J. LEONARD
City Council. Music Hall, Pension.

RICHARD K. MELLON
*Princeton. Chairman of the Board, Mellon
National Bank and Trust Company. Museum,
Advisory.*

*W. L. MELLON
*Chester Military Academy. Chairman, Gulf Oil
Corporation. Museum.*

*WILLIAM S. MOORHEAD
*Yale. Law School University of Pittsburgh.
Moorhead & Knox. Tech, Library, Art, Audit-
ing.*

AUGUSTUS K. OLIVER
Yale. Pension, Tech, Advisory.

*THOMAS L. ORR
*Hamilton. Vice President, Mellon National
Bank and Trust Company. Art, Tech, Finance,
Advisory.*

JOHN LESTER PERRY
*Assistant to the President, United States Steel
Corporation. Music Hall.*

JAMES C. REA
*Princeton. Vice President, Oliver Iron and Steel
Corporation. Museum, Music Hall, Pension,
Finance.*

*WILLIAM M. ROBINSON
*Princeton. Law School University of Pittsburgh.
Reed, Smith, Shaw & McClay. Finance.*

CHARLES J. ROSENBLUM
*Yale. President, Rosenbloom Finance Corporation.
Art.*

FREDERIC SCHAEFER
*University of Pittsburgh. President, Schaefer
Equipment Company. Museum, Art.*

*WILLIAM WATSON SMITH
*Princeton. Smith, Buchanan & Ingersoll. Art,
Advisory.*

*FREDERIC G. WEIR
*Princeton. Law School University of Pittsburgh.
City Council. Buildings and Grounds.*

WILLIAM P. WITHEROW
*Yale. President, Blaw-Knox Company. Music
Hall, Tech, Advisory.*

*A. L. WOLK
*Columbia University. Law School University of
Pittsburgh. City Council. Auditing, Library,
Advisory.*

LAWRENCE C. WOODS, JR.
*Princeton. Manager, Woods Agency, Equitable
Life Assurance Society of United States. Museum.*

